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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,236	03/19/2001	Michael Lange	GCSD-1128 (51163)	9436

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EXAMINER	
SEDIGHIAN, REZA	
ART UNIT	**PAPER NUMBER**
2633	9

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,236	LANGE ET AL.	
	Examiner	Art Unit	
	M. R. Sedighian	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *29-41* is/are withdrawn from consideration.

5)☒ Claim(s) *17-28* is/are allowed.

6)☒ Claim(s) *1-15 and 42-45* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. Applicant's election with traverse of 1/2/04 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the two inventions are the same and search and examination of the entire application can be made without serious burden. This is not found persuasive because invention I is related to a WDM transmission system, wherein optical signals from different transmitters are transmitted, multiplexed, demultiplexed, and received by optical receivers, and Invention II is related to a network hub for transmitting optical signals from a plurality of transceivers, wherein each transceiver has a board with network interfaces for connection to a network, and a switch circuit that is connected to the network interface, and a processor that is connected to the switch for controlling the switch. Inventions I and II are different because invention I does not have transceiver boards that each have a network interface for connection to a network and a switch circuit on each board that is connected to the network interface and a processor that is connected to each switch for controlling the switch and a bus that interconnects the processor of each board. The requirement is still deemed proper and is therefore made FINAL. Group I, including claims 1-28 and 42-45 are now examined.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 11-12, it is not clear what is meant by "...a transceiver optically connected to each optical transmitter and matched optical receiver for receiving and transmitting an optical

communication signal, wherein said transceiver is operative at a first wavelength band and said optical transmitter and matched optical receiver are operative at a second wavelength band". Which transceiver is optically connected to an optical transmitter and to a matched optical receiver?? Which transceiver is operative at a first wavelength band, and which transmitter and receiver are operative at a second wavelength band??

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 5, and 42-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Handelman (US Patent No: 6,404,522).

Regarding claims 1 and 42, Handelman teaches a multimode WDM network transceiver (fig. 2), comprising: a plurality of optical transmitters (TX_1, TX_2, fig. 2), a multiplexer (WDM, 265, fig. 2), a demultiplexer (DMUX, 270, fig. 2), and a plurality of optical receivers (RX_1, RX_2, fig. 2), wherein the optical communication signals having a wavelength channel spacing less than about 1000 GHz (col. 12, lines 12-16).

Regarding claims 2, 5, and 43, Handelman teaches the optical receiver comprises a PIN detector (col. 12, lines 59-60).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 3, 6, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Wilsher et al. (US Patent No: 6,496,261).

Regarding claims 3, 6, and 44, Handelman differs from the claimed invention in that Handelman does not specifically teach the PIN detector comprises an InGaAS PIN detector. Wilsher teaches a plurality of InGaAS PIN detectors (650, 670, fig. 1 and col. 7, lines 25-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a plurality of InGaAS PIN detectors such as the ones of Wilsher for the optical receivers of Handelman in order to provide low noise photosensitive detectors.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Muoi (US Patent No: 4,415,803).

Regarding claim 4, Handelman differs from the claimed invention in that Handelman does not specifically teach the optical receiver comprises a transimpedance amplifier. Muoi teaches an optical receiver (abstract and fig. 1) that comprises a detector (102, fig. 1) connected to a transimpedance amplifier (104, fig. 1). Therefore, it would have been obvious to an artisan at the time of invention to incorporate an optical receiver that comprises a transimpedance amplifier such a the one of Muoi for each of the optical receivers in the optical communication

system of Handelman in order to provide optical receivers with improved dynamic ranges and minimized signal distortion.

9. Claim 7 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Knox (US Patent No: 6,151,144).

Regarding claims 7 and 45, Handelman differs from the claimed invention in that Handelman does not specifically teach the optical transmitter comprises of a distributed feedback laser. Knox teaches a plurality of distributed feedback lasers (col. 4, lines 33-34 and 50, 52, 54, fig. 3). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate distributed feedback lasers such as the ones of Knox for the laser transmitters in the optical communication system of Handelman in order to achieve considerable range of frequencies and gains.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Clark et al. (US Patent No: 4,930,855).

Regarding claim 8, Handelman differs from the claimed invention in that Handelman does not specifically teach the optical transmitter comprises a thermoelectric cooler and controller circuit. Clark teaches an optical transmitter (10, fig. 7) that comprises a thermoelectric cooler (68, fig. 7) and controller circuit (66, fig. 7 and col. 9, lines 20-22). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate an optical transmitter with thermoelectric cooler and controller such as the one of Clark for each

of the laser transmitter modules in the optical communication system of Handelman in order to vary and adjust the temperature of each laser module.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Taga et al. (US Patent No: 5,790,289).

Regarding claim 9, Handelman differs from the claimed invention in that Handelman does not teach an attenuator positioned between the optical transmitter and multiplexer. Taga teaches optical attenuators (6, 7, 8, fig. 1) between optical transmitters (1, 2, 3, fig. 1) and a multiplexer (10, fig. 1). Therefore, it would have been obvious to an artisan at the time of invention to incorporate optical attenuators along the transmission lines, as it is taught by Taga, along the transmission lines in the communication system of Handelman in order to vary the input signal level.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Hodara et al. (US Patent No: 4,932,004).

Regarding claim 13, Handelman differs from the claimed invention in that Handelman does not teach a chip circuit operatively connected to an optical transmitter. Hodara (US Patent No: 4,932,004) teaches a data chip (52, fig. 3) that is connected to an optical transmitter (62, fig. 3). Therefore, it would have been obvious to incorporate a chip circuit for processing and storing the incoming data, as it is taught by Hodara, for the data sources in the electro-optical data transmission system of Handelman in order to receive the data signals and to transfer the data optically.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Taga et al. (US Patent No: 5,790,289) and in further view of Fishman et al. (US Patent No: 6,607,311).

Regarding claim 10, the modified optical communication of Handelman and Taga differs from the claimed invention in that Handelman and Taga do not teach single mode fiber for transmission of signals. Fishman teaches a single mode optical fiber for transmission of multiplexed optical signals (col. 8, lines 28-30). Therefore, it would have been obvious to an artisan at the time of invention to incorporate single mode optical fibers such as the one of Fishman for the transmission fibers in the modified optical communication system of Handelman and Taga in order to reduce the insertion loss, the return loss, and to reduce the cross-talk between wavelength channels.

14. Claims 14-15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (US Patent No: 6,404,522) in view of Hodara et al. (US Patent No: 4,932,004) and in further view of Dagate et al. (US Patent No: 6,577,605).

Regarding claims 14-15, the modified communication system of Handelman and Hodara differs from the claimed invention in that Handelman and Hodara do not teach RJ-45 jacks for Ethernet 1000 Base-T connection. Dagate teaches RJ-45 jacks for Ethernet connection (col. 6, lines 55-58). Therefore, it would have been obvious to an artisan at the time of invention to incorporate RJ-45 jacks for Ethernet connection, as it is taught by Dagate, to facilitate cable connections between various modules.

15. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 17-28 are allowed over prior art of record.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad R Sedighian whose telephone number is (703) 308-9063. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

M. R. Sedighian

M.R. SEDIGHIAN
Patent Examiner
Art Unit: 2633